IN THE CLAIMS

Amended claims follow:

1.   (Previously Amended) A method of distributing a computer file from a source computer to a plurality of target computers via a computer network, said method comprising the steps of:

determining a demand level upon said source computer for downloading of said computer file to said plurality of target computers;

sending at least one download controlling message from said source computer to at least one of said plurality of target computers;

controlling downloading of said computer file by said at least one of said plurality of target computers in dependence upon said download controlling message; and

adjusting said downloading controlling message in dependence upon said demand level;

wherein said download controlling message is sent from said source computer to said target computers, in order to control the manner in which said target computers request said downloading of said computer file.

2.   (Original) A method as claimed in claim 1, wherein said download controlling message includes a broadcast message, said method comprising the steps of:

issuing said broadcast message from said source computer to said plurality of target computers indicating availability of said computer file for download from said source computer, said broadcast message including at least one download qualifying parameter;

receiving said broadcast message at said plurality of target computer;

determining for each target computer of said plurality of target computers that received said broadcast message whether or not said target computer already has said computer file;

determining for each target computer that does not already have said computer file in dependence upon said at least one download qualifying parameter whether or not

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said target computer qualifies to download said computer file in response to said broadcast message;

downloading said computer file from said source computer to those target computers that do not already have said computer file and that qualify to download said computer file;

monitoring how many target computers download said computer file in response to said broadcast message; and

adjusting at least one download parameter used in a following broadcast message issued by said source computer in dependence upon how many target computers downloaded said computer file in response to said broadcast message.

3.   (Original) A method as claimed in claim 2, wherein said at least one download qualifying parameter is adjusted such that a probability that a particular target computer will qualify to download said computer file on the basis of said at least one download qualifying parameter increases as time progresses.

4.   (Original) A method as claimed in claim 1, wherein a number of target computers not having said computer file decreases as time progresses.

5.   (Original) A method as claimed in claim 2, wherein said at least one download qualifying parameter is adjusted such that a number of target computers downloading said computer file in response to said broadcast message does not exceed a threshold level.

6.   (Original) A method as claimed in claim 2, wherein each target computer has a priority level parameter indicating a position within a priority hierarchy and said at least one download qualifying parameter specifies which priority level parameters a target computer must have to qualify to download said computer file.

7.   (Original) A method as claimed in claim 2, wherein said at least one download qualifying parameter includes a random selection control parameter used in combination

with a quasi-random parameter generated by a particular target computers to control whether or not said particular target computer qualifies to download said computer file.

8.   (Original) A method as claimed in claim 2, wherein said broadcast message includes time range data specifying a range of times within which target computers qualifying to download said computer file in response to said broadcast message should download said computer file.

9.   (Original) A method as claimed in claim 8, wherein each target computer that qualifies to download said target file in response to said broadcast message initiates downloading at a time quasi-randomly selected within said range of time.

10.   (Original) A method as claimed in claim 2, wherein said broadcast message includes a network address of said source computer.

11.   (Original) A method as claimed in claim 1, wherein a target computer that has downloaded said computer file subsequently acts as a source computer.

12.   (Original) A method as claimed in claim 1, wherein upon receipt of said computer file said target computer issues prompts seeking user input specifying how said computer file should be used.

13.   (Original) A method as claimed in claim 1, wherein said computer file is a virus definition data file for use by an anti-virus computer program.

14.   (Original) A method as claimed in claim 1, wherein at least portions of said computer network comprise internet network links.

15.   (Original) A method as claimed in claim 1, wherein said download controlling message includes a retry message, said method comprising the steps of:

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sending a download request from one of said plurality of target computers to said source computer, said download request including information identifying said one of said plurality of target computers;

receiving at said source computer said download request from said one of said plurality of target computers;

if said demand level is less than a predetermined threshold level, then sending said computer file from said source computer to said one of said plurality of target computers;

if said demand level is greater than said predetermined threshold level, then sending said retry message to said one of said plurality of target computers indicating a delay period after which said one of said plurality of target computers may reissue said download request to said source computer; and

upon expiry of said delay period reissuing said download request from said one of said plurality of target computers to said source computer.

16.   (Previously Amended) A method of sending a computer file from a source computer to a plurality of target computers via a computer network, said method comprising the steps of:

determining a demand level upon said source computer for downloading of said computer file to said plurality of target computers;

sending at least one download controlling message from said source computer to at least one of said plurality of target computers, said download controlling message being usable to control downloading of said computer file by said at least one of said plurality of target computers in dependence upon said download controlling message; and

adjusting said downloading controlling message in dependence upon said demand level;

wherein said download controlling message is sent from said source computer to said target computers, in order to control the manner in which said target computers request said downloading of said computer file.

17.   (Original) A method of as claimed in claim 16, wherein said download controlling message includes a broadcast message, said method comprising the steps of:

issuing said broadcast message from said source computer to said plurality of target computers indicating availability of said computer file for download from said source computer, said broadcast message including at least one download qualifying parameter that controls whether or not a target computer that receives said broadcast message and does not already have said computer file qualifies to download said computer file from said source computer in response to said broadcast message;

monitoring how many target computers download said computer file in response to said broadcast message; and

adjusting at least one download qualifying parameter used in a following broadcast message issued by said source computer in dependence upon how many target computers downloaded said computer file in response to said broadcast message.

18.   (Original) A method as claimed in claim 16, wherein said download controlling message includes a retry message, said method comprising the steps of:

receiving at said source computer a download request from one of said plurality of target computers, said download request including information identifying said one of said plurality of target computers;

if said demand level is less than a predetermined threshold level, then sending said computer file from said source computer to said one of said plurality of target computers; and

if said demand level is greater than said predetermined threshold level, then sending said retry message to said one of said plurality of target computers indicating a delay period after which said one of said plurality of target computers may reissue said download request to said source computer.

19.   (Previously Amended) A method of downloading a computer file from a source computer to a target computer via a computer network, said method comprising the steps of:

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receiving at said target computer a download controlling message from said source computer; and

controlling sending of download requests from said target computer to said source computer in dependence upon said download controlling message;

wherein said download controlling message is sent from said source computer to a plurality of said target computers, in order to control the manner in which said target computers request said downloading of said computer file.

20.   (Original) A method as claimed in claim 19, wherein said download controlling message is a broadcast message, said method comprising the steps of:

receiving said broadcast message from said source computer at said target computer, said broadcast message indicating availability of said computer file for download from said source computer and including at least one download qualifying parameter;

determining whether or not said target computer already has said computer file;

if said target computer does not already have said computer file, then determining in dependence upon said at least one download qualifying parameter whether or not said target computer qualifies to download said computer file in response to said broadcast message;

if said target computer qualifies to download said computer file in response to said broadcast message, then downloading said computer file from said source computer to said target computer; and

if said target computer does not qualify to download said computer file, then waiting for a next broadcast message.

21.   (Original) A method as claimed in claim 19, wherein said download controlling message is a retry message, said method comprising the steps of:

sending a download request from one of said plurality of target computers to said source computer, said download request including information identifying said one of said plurality of target computers;

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receiving said retry message from said source computer, said retry message indicating a delay period after which said one of said plurality of target computers may reissue said download request to said source computer; and

upon expiry of said delay period reissuing said download request from said one of said plurality of target computers to said source computer.

22.   (Previously Amended) Apparatus for distributing a computer file from a source computer to a plurality of target computers via a computer network, said apparatus comprising:

first determining logic operable to determine a demand level upon said source computer for downloading of said computer file to said plurality of target computers;

transmitting logic operable to send at least one download controlling message from said source computer to at least one of said plurality of target computers;

a controller operable to control downloading of said computer file by said at least one of said plurality of target computers in dependence upon said download controlling message; and

adjusting logic operable to adjust said downloading controlling message in dependence upon said demand level;

wherein said download controlling message is sent from said source computer to said target computers, in order to control the manner in which said target computers download said computer file.

23.   (Original) Apparatus as claimed in claim 22, wherein said download controlling message includes a broadcast message, said apparatus comprising:

broadcasting logic operable to issue a broadcast message from said source computer to said plurality of target computers indicating availability of said computer file for download from said source computer, said broadcast message including at least one download qualifying parameter;

a receiver operable to receive said broadcast message at said plurality of target computer;

second determining logic operable to determine for each target computer of said plurality of target computers that received said broadcast message whether or not said target computer already has said computer file;

third determining logic operable to determine for each target computer that does not already have said computer file in dependence upon said at least one download qualifying parameter whether or not said target computer qualifies to download said computer file in response to said broadcast message;

downloading logic operable to download said computer file from said source computer to those target computers that do not already have said computer file and that qualify to download said computer file;

monitoring logic operable to monitor how many target computers download said computer file in response to said broadcast message; and

adjusting logic operable to adjust an at least one download parameter used in a following broadcast message issued by said source computer in dependence upon how many target computers downloaded said computer file in response to said broadcast message.

24.   (Original) Apparatus as claimed in claim 23, wherein said at least one download qualifying parameter is adjusted such that a probability that a particular target computer will qualify to download said computer file on the basis of said at least one download qualifying parameter increases as time progresses.

25.   (Original) Apparatus as claimed in claim 22, wherein a number of target computers not having said computer file decreases as time progresses.

26.   (Original) Apparatus as claimed in claim 23, wherein said at least one download qualifying parameter is adjusted such that a number of target computers downloading said computer file in response to said broadcast message does not exceed a threshold level.

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27.   (Original) Apparatus as claimed in claim 23, wherein each target computer has a priority level parameter indicating a position within a priority hierarchy and said at least one download qualifying parameter specifies which priority level parameters a target computer must have to qualify to download said computer file.

28.   (Original) Apparatus as claimed in claim 23, wherein said at least one download qualifying parameter includes a random selection control parameter used in combination with a quasi-random parameter generated by a particular target computers to control whether or not said particular target computer qualifies to download said computer file.

29.   (Original) Apparatus as claimed in claim 23, wherein said broadcast message includes time range data specifying a range of times within which target computers qualifying to download said computer file in response to said broadcast message should download said computer file.

30.   (Original) Apparatus as claimed in claim 29, wherein each target computer that qualifies to download said target file in response to said broadcast message initiates downloading at a time quasi-randomly selected within said range of time.

31.   (Original) Apparatus as claimed in claim 23, wherein said broadcast message includes a network address of said source computer.

32.   (Original) Apparatus as claimed in claim 22, wherein a target computer that has downloaded said computer file subsequently acts as a source computer.

33.   (Original) Apparatus as claimed in claim 22, wherein upon receipt of said computer file said target computer issues prompts seeking user input specifying how said computer file should be used.

34.   (Original) Apparatus as claimed in claim 22, wherein said computer file is a virus definition data file for use by an anti-virus computer program.

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35.   (Original) Apparatus as claimed in claim 22, wherein at least portions of said computer network comprise internet network links.

36.   (Original) Apparatus as claimed in claim 22, wherein said download controlling message includes a retry message, said apparatus comprising:

   request transmitting logic operable to send a download request from one of said plurality of target computers to said source computer, said download request including information identifying said one of said plurality of target computers;

   a receiver operable to receive at said source computer said download request from said one of said plurality of target computers;

   response transmitting logic operable if said demand level is less than a predetermined threshold level, to send said computer file from said source computer to said one of said plurality of target computers and operable if said demand level is greater than said predetermined threshold level, to send said retry message to said one of said plurality of target computers indicating a delay period after which said one of said plurality of target computers may reissue said download request to said source computer; and

   reissue logic operable upon expiry of said delay period to reissue said download request from said one of said plurality of target computers to said source computer.

37.   (Previously Amended) A source computer for sending a computer file to a plurality of target computers via a computer network, said source computer comprising:

   determining logic operable to determine a demand level upon said source computer for downloading of said computer file to said plurality of target computers;

   transmitting logic operable to send at least one download controlling message from said source computer to at least one of said plurality of target computers, said download controlling message being usable to control downloading of said computer file by said at least one of said plurality of target computers in dependence upon said download controlling message; and

adjusting logic operable to adjust said downloading controlling message in dependence upon said demand level;

wherein said download controlling message is sent from said source computer to said target computers, in order to control the manner in which said target computers download said computer file.

38.   (Original) A source computer as claimed in claim 37, wherein said download controlling message includes a broadcast message, said source computer comprising:

broadcast transmitting logic operable to issue said broadcast message from said source computer to said plurality of target computers indicating availability of said computer file for download from said source computer, said broadcast message including at least one download qualifying parameter that controls whether or not a target computer that receives said broadcast message and does not already have said computer file qualifies to download said computer file from said source computer in response to said broadcast message;

monitoring logic operable to monitor how many target computers download said computer file in response to said broadcast message; and

parameter adjusting logic operable to adjust an at least one download qualifying parameter used in a following broadcast message issued by said source computer in dependence upon how many target computers downloaded said computer file in response to said broadcast message.

39.   (Original) A source computer as claimed in claim 37, wherein said download controlling message includes a retry message, said source computer comprising:

a receiver operable to receive at said source computer a download request from one of said plurality of target computers, said download request including information identifying said one of said plurality of target computers;

response transmitting logic operable if said demand level is less than a predetermined threshold level, to send said computer file from said source computer to said one of said plurality of target computers and operable if said demand level is greater than said predetermined threshold level, to send said retry message to said one of

said plurality of target computers indicating a delay period after which said one of said plurality of target computers may reissue said download request to said source computer.

40.   (Previously Amended) A target computer for downloading a computer file from a source computer to a target computer via a computer network, said target computer comprising:

a receiver operable to receive a download controlling message from said source computer; and

a controller operable to control sending of download requests from said target computer to said source computer in dependence upon said download controlling message;

wherein said download controlling message is sent from said source computer to said target computer, in order to control the manner in which said target computer requests said downloading of said computer file.

41.   (Original) A target computer as claimed in claim 40, wherein said download controlling message is a broadcast message, said target computer comprising:

a broadcast receiver operable to receive said broadcast message from said source computer at said target computer, said broadcast message indicating availability of said computer file for download from said source computer and including at least one download qualifying parameter;

first determining logic operable to determine whether or not said target computer already has said computer file;

second determining logic operable if said target computer does not already have said computer file, to determine in dependence upon said at least one download qualifying parameter whether or not said target computer qualifies to download said computer file in response to said broadcast message;

third determining logic operable if said target computer qualifies to download said computer file in response to said broadcast message, to download said computer file from said source computer to said target computer and operable if said target

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computer does not qualify to download said computer file, to wait for a next broadcast message.

42.   (Original) A target computer as claimed in claim 40, wherein said download controlling message is a retry message, said target computer comprising:

a transmitter operable to send a download request from one of said plurality of target computers to said source computer, said download request including information identifying said one of said plurality of target computers;

a retry message receiver operable to receive said retry message from said source computer, said retry message indicating a delay period after which said one of said plurality of target computers may reissue said download request to said source computer; and

reissue logic operable upon expiry of said delay period to reissue said download request from said one of said plurality of target computers to said source computer.

43.   (Previously Amended) A computer program product carrying a computer program for controlling a computer to distribute a computer file from a source computer to a plurality of target computers via a computer network, said computer program product comprising:

first determining code operable to determine a demand level upon said source computer for downloading of said computer file to said plurality of target computers;

transmitting code operable to send at least one download controlling message from said source computer to at least one of said plurality of target computers;

a controller operable to control downloading of said computer file by said at least one of said plurality of target computers in dependence upon said download controlling message; and

adjusting code operable to adjust said downloading controlling message in dependence upon said demand level;

wherein said download controlling message is sent from said source computer to said target computers, in order to control the manner in which said target computers download said computer file.

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44.   (Original) A computer program product as claimed in claim 43, wherein said download controlling message includes a broadcast message, said computer program product comprising:

broadcasting code operable to issue a broadcast message from said source computer to said plurality of target computers indicating availability of said computer file for download from said source computer, said broadcast message including at least one download qualifying parameter;

receiver logic operable to receive said broadcast message at said plurality of target computer;

second determining code operable to determine for each target computer of said plurality of target computers that received said broadcast message whether or not said target computer already has said computer file;

third determining code operable to determine for each target computer that does not already have said computer file in dependence upon said at least one download qualifying parameter whether or not said target computer qualifies to download said computer file in response to said broadcast message;

downloading code operable to download said computer file from said source computer to those target computers that do not already have said computer file and that qualify to download said computer file;

monitoring code operable to monitor how many target computers download said computer file in response to said broadcast message; and

adjusting code operable to adjust at least one download parameter used in a following broadcast message issued by said source computer in dependence upon how many target computers downloaded said computer file in response to said broadcast message.

45.   (Original) A computer program product as claimed in claim 44, wherein said at least one download qualifying parameter is adjusted such that a probability that a particular target computer will qualify to download said computer file on the basis of said at least one download qualifying parameter increases as time progresses.

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46.   (Original) A computer program product as claimed in claim 43, wherein a number of target computers not having said computer file decreases as time progresses.

47.   (Original) A computer program product as claimed in claim 44, wherein said at least one download qualifying parameter is adjusted such that a number of target computers downloading said computer file in response to said broadcast message does not exceed a threshold level.

48.   (Original) A computer program product as claimed in claim 44, wherein each target computer has a priority level parameter indicating a position within a priority hierarchy and said at least one download qualifying parameter specifies which priority level parameters a target computer must have to qualify to download said computer file.

49.   (Original) A computer program product as claimed in claim 44, wherein said at least one download qualifying parameter includes a random selection control parameter used in combination with a quasi-random parameter generated by a particular target computers to control whether or not said particular target computer qualifies to download said computer file.

50.   (Original) A computer program product as claimed in claim 44, wherein said broadcast message includes time range data specifying a range of times within which target computers qualifying to download said computer file in response to said broadcast message should download said computer file.

51.   (Original) A computer program product as claimed in claim 50, wherein each target computer that qualifies to download said target file in response to said broadcast message initiates downloading at a time quasi-randomly selected within said range of time.

52.   (Original) A computer program product as claimed in claim 44, wherein said broadcast message includes a network address of said source computer.

53.   (Original) A computer program product as claimed in claim 43, wherein a target computer that has downloaded said computer file subsequently acts as a source computer.

54.   (Original) A computer program product as claimed in claim 43, wherein upon receipt of said computer file said target computer issues prompts seeking user input specifying how said computer file should be used.

55.   (Original) A computer program product as claimed in claim 43, wherein said computer file is a virus definition data file for use by an anti-virus computer program.

56.   (Original) A computer program product as claimed in claim 43, wherein at least portions of said computer network comprise internet network links.

57.   (Original) A computer program product as claimed in claim 43, wherein said download controlling message includes a retry message, said method comprising the steps of:

    request transmitting code operable to send a download request from one of said plurality of target computers to said source computer, said download request including information identifying said one of said plurality of target computers;

    receiver code operable to receive at said source computer said download request from said one of said plurality of target computers;

    response transmitting code operable if said demand level is less than a predetermined threshold level, to send said computer file from said source computer to said one of said plurality of target computers and operable if said demand level is greater than said predetermined threshold level, to send said retry message to said one of said plurality of target computers indicating a delay period after which said one of said

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plurality of target computers may reissue said download request to said source computer; and

 reissue code operable upon expiry of said delay period to reissue said download request from said one of said plurality of target computers to said source computer.

58. (Previously Amended) A computer program product for controlling a source computer to send a computer file to a plurality of target computers via a computer network, said computer program product comprising:

 determining code operable to determine a demand level upon said source computer for downloading of said computer file to said plurality of target computers;

 transmitting code operable to send at least one download controlling message from said source computer to at least one of said plurality of target computers, said download controlling message being usable to control downloading of said computer file by said at least one of said plurality of target computers in dependence upon said download controlling message; and

 adjusting code operable to adjust said downloading controlling message in dependence upon said demand level;

 wherein said download controlling message is sent from said source computer to said target computers, in order to control the manner in which said target computers download said computer file.

59. (Original) A computer program product as claimed in claim 58, wherein said download controlling message includes a broadcast message, said source computer comprising:

 broadcast transmitting code operable to issue said broadcast message from said source computer to said plurality of target computers indicating availability of said computer file for download from said source computer, said broadcast message including at least one download qualifying parameter that controls whether or not a target computer that receives said broadcast message and does not already have said computer file qualifies to download said computer file from said source computer in response to said broadcast message;

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monitoring code operable to monitor how many target computers download said computer file in response to said broadcast message; and

parameter adjusting code operable to adjust an at least one download qualifying parameter used in a following broadcast message issued by said source computer in dependence upon how many target computers downloaded said computer file in response to said broadcast message.

60.   (Original) A computer program product as claimed in claim 58, wherein said download controlling message includes a retry message, said computer program product comprising:

receiver code operable to receive at said source computer a download request from one of said plurality of target computers, said download request including information identifying said one of said plurality of target computers;

response transmitting code operable if said demand level is less than a predetermined threshold level, to send said computer file from said source computer to said one of said plurality of target computers and operable if said demand level is greater than said predetermined threshold level, to send said retry message to said one of said plurality of target computers indicating a delay period after which said one of said plurality of target computers may reissue said download request to said source computer.

61.   (Previously Amended) A computer program product for controlling a target computer to download a computer file from a source computer to a target computer via a computer network, said computer program product comprising:

receiver code operable to receive a download controlling message from said source computer; and

control code operable to control sending of download requests from said target computer to said source computer in dependence upon said download controlling message;

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wherein said download controlling message is sent from said source computer to said target computer, in order to control the manner in which said target computer requests said downloading of said computer file.

62.   (Original) A computer program product as claimed in claim 61, wherein said download controlling message is a broadcast message, said computer program product comprising:

broadcast receiver code operable to receive said broadcast message from said source computer at said target computer, said broadcast message indicating availability of said computer file for download from said source computer and including at least one download qualifying parameter;

first determining code operable to determine whether or not said target computer already has said computer file;

second determining code operable if said target computer does not already have said computer file, to determine in dependence upon said at least one download qualifying parameter whether or not said target computer qualifies to download said computer file in response to said broadcast message;

third determining code operable if said target computer qualifies to download said computer file in response to said broadcast message, to download said computer file from said source computer to said target computer and operable if said target computer does not qualify to download said computer file, to wait for a next broadcast message.

63.   (Original) A computer program product as claimed in claim 61, wherein said download controlling message is a retry message, said computer program product comprising:

transmitter code operable to send a download request from one of said plurality of target computers to said source computer, said download request including information identifying said one of said plurality of target computers;

retry message receiver code operable to receive said retry message from said source computer, said retry message indicating a delay period after which said one of

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said plurality of target computers may reissue said download request to said source computer; and

reissue code operable upon expiry of said delay period to reissue said download request from said one of said plurality of target computers to said source computer.

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